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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/904,748	07/13/2001	Stephan Rosner	2000.066300/DE0031	3352

23720 7590 03/09/2004

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EXAMINER

SHIN, CHRISTOPHER B

ART UNIT	PAPER NUMBER
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2182

DATE MAILED: 03/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n N .

09/904,748

Applicant(s)

ROSNER ET AL.

Examiner

Christopher B Shin

Art Unit

2182

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Request for Reconsideration received December 12, 2003 has been entered and carefully considered. The applicant made no amendments to the claims.

Response to Arguments

2. Applicant's arguments filed December 12, 2003 have been fully considered but they are not persuasive.

On pages 3-6, the applicant basically argued that the Nagaraj reference does not describe the "second DMA transfer". The examiner traverses such an argument. The examiner's reasonably broad interpretation of the broadly claimed first and second DMA transfers reads on the teachings of the Nagaraj's two part transfers of a DMA operation. As can be seen from column 4, line 20, clearly states that the "operation" is split into two separate "cycles". The examiner interprets the claimed "DMA transfer" as one of the split DMA "operation". More importantly, the Nagaraj reference teaches the equivalent function of the present claims. The examiner believes that the applicant's interpretation of the claimed "transfer" seems to be narrower than the examiner. The examiner asks the applicant to carefully review the teachings of columns 4-7 of the Nagaraj reference before responding to this office action.

For the above reasons, the examiner maintains the art rejection as follows;

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagaraj et al. (5,805,842).

i. In figures 1-6 and the respective description sections, the Nagaraj reference teaches the claimed limitations as follows:

Claims 26-34 Nagaraj et al. (Figures 1-6)

- an apparatus for executing a write request over a PCI bus
 - feature of figures 2-3 systems over a PCI bus (220)
- queue for storing a write access request
 - obvious feature of column 3, lines 57-58
- device located on a PCI bus for storing data to be transferred
 - feature of (225 & 230)
- main memory for receiving said data
 - feature of (210)
- buffer memory for buffer storage of said data
 - feature of (340)
- whereby data transfer to said buffer memory is accomplished by a first DMA transfer
 - feature of (340), column 5, lines 27-29
- data transfer from said buffer memory to said main memory is accomplished by a second DMA transfer
 - feature of (300, 310, 320, 360)
- finite state machine associated with said queue for selecting an access request
 - feature of (320, 340, 360, 370)
- time-variant access behavior for main memory second DMA transfer, buffer memory
 - feature of having using (320, 340, 360, 370)
- DMA initiated by said device
 - feature of (225 & 230)
- finite state machine is adapted to initiate a second DMA transfer
 - feature of (320, 340, 360, 370)
- second DMA transfer is initiated after said data transfer to said buffer memory is terminated
 - feature of column 5, lines 27-29

- said device and main memory are decoupled
 - feature of (210, 225 & 230)

ii. As for claims 26-34, the difference between the claimed invention and the teachings of the Nagaraj reference is that the reference does not expressly specifies the DMA transfer as first and second DMA transfers; however, such difference is obvious from the teachings of the Nagaraj reference. As can be seen from the teaching of column 4, lines 20-23, of the Nagaraj reference, teaches the "DMA operation by splitting the operation into two PCI cycles; namely one memory cycle and one I/O cycle". Therefore, one having ordinary skill in the art can recognize the equivalent teachings of the broadly claimed "first" and "second DMA transfer". Therefore, it would have been obvious at the time the invention was made to one having ordinary skill in the art to come up with the invention from the teachings of the Nagaraj reference for the reasons stated above.

5. As for claims 1-9, 10-17 & 18-24, the above teachings of the claims 26-34 are respectively and similarly applied, due to the similarity between the respective claims.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher B Shin whose telephone number is 703-305-9856. The examiner can normally be reached on 6:30-5:00 M,Tu,Th,F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on 703-308-3301. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Christopher Shin
Primary Examiner
Of 2182

March 8, 2004

A handwritten signature in black ink, appearing to read 'Chris Shin', is written over the printed name and title of the examiner.